lung. When protected from the action of bacteria lungs in the stage of grey hepatization were found to undergo autolysis outside the body with great rapidity, while the specimens of red hepatization took much longer to autolyze and those of unresolved pneumonia showed scarcely any change, even after a considerable length of time. The process of autolysis is mainly dependent upon the number of leukocytes in the exudate, and it is this fact which explains the slow and incomplete liquefaction of the exudate in red hepatization and unresolved pneumonia. The exudate in a pneumonic lung which has not undergone resolution is exceedingly poor in cells, and many of the alveoli are plugged with dense hyaline, fibrinous masses. Unresolved pneumonia is, therefore, considered as an acute lobar pneumonia, in which the inflammatory exudate, either because of some disproportion between the leukocytes and other constituents, or because of other causes as yet unknown, failing to autolyze perfectly, cannot be absorbed and hence undergoes organization.

Etiology of the Sleeping Sickness of the Negro.—ALDO CASTELLANI (*Cent. f. Bakt. u. Parasit.*, 1903, Bd. xxxv. p. 62) describes a trypanosoma which he has found in the cerebrospinal fluid of twenty out of thirty-four cases of sleeping sickness investigated in Uganda. In order to demonstrate the parasite, it is necessary to collect about 10 c.c. of spinal fluid, centrifugalize and examine the sediment, when the trypanosoma, at first actively motile, are readily seen. The parasite was not found in the blood, but was discovered in the fluid removed from the lateral ventricles of the brain in two autopsy cases. The cerebrospinal fluid of twelve healthy individuals living in the Uganda district did not contain parasites. The author concludes that the sleeping sickness is in all probability caused by this particular species of trypanosoma.

The Effects of Lymphotoxins and Myelotoxins on the Leukocytes of the Blood and on the Blood-forming Organs.—BUNTING (*Univ. of Penna. Med. Bull.*, 1903, vol. xvi. p. 200) finds that the serum of the normal goose is, to a certain extent, toxic for rabbits when injected intraperitoneally or subcutaneously. This toxicity consists in a moderate depletion in the bone-marrow and lymph glands of preformed cells, and to an early and slightly excessive restoration of these elements after withdrawal. The depletion is in large part due to migration of the cells into the peritoneal cavity, during which process the circulating blood shows at first a scarcity and later an excess of these elements. Only slight signs of toxic action are found in the blood-building organs at a distance from the injections. Serum from a goose which had received successive injections of the bone-marrow of rabbits when inoculated into the rabbit gave rise to changes in the white cells of the circulating blood, and to lesions in the hæmopoietic organs in a measure similar to those produced by injections of normal goose serum. The characteristic action of the myelotoxic serum, however, was its marked effect upon the bone-marrow and the cells derived from the bone-marrow. Following injections of this serum in rabbits the circulating blood showed a sharp and marked rise in the total number of amphophile leukocytes, and a less pronounced increase in the lymphocytes, but still an increase above that called forth by injections of normal serum. The blood picture and the histological alterations in the bone-marrow suggested, therefore, that there had been a sudden and excessive demand upon the bone-marrow for the amphophile leukocytes. Large doses of the myelotoxic serum produced extensive destruction of the bone-marrow elements "in loco."

Serum obtained by treating geese with the lymph glands of rabbits gave rise to changes in rabbits which differed from those produced by normal goose serum chiefly in the fact that the toxic action of the serum was directed toward the lymphoblastic tissues. The circulating blood showed a primary lymphopænia, followed by a definite and often marked absolute lymphocytosis, while the effect upon the amphophile leucocytes was practically the same as that following injections of normal goose serum. A study of the lymph glands especially made it evident that there was an extensive primary injury to these tissues with a later excessive repair of cellular elements. It was found, moreover, that by increasing the hæmolytic power of goose serum for the erythrocytes of the rabbit, the toxic power of the serum for both amphophile leukocytes and lymphocytes of the rabbit was also increased; but these effects were of much less intensity than the characteristic specific changes called forth by injections of the myelotoxic and lymphotoxic sera. Bunting in his conclusions regards leukocytosis as the excessive reaction of leukoblastic tissue to a leukopenia of the circulating blood, due either to a withdrawal of leukocytes from the circulation or to their destruction within the circulation. The amphophile, eosinophile, and basophile leukocytes are derived from the bone-marrow, while the lymphoid cells are chiefly derived from the lymph glands and spleen, although the marrow is a lymphoid tissue and contains typical lymphocytes. Amphophile and eosinophile myelocytes may multiply by mitosis, and their number may be increased by the development of specific granules in the protoplasm of large mononuclear elements with scant basophilic protoplasm, a cell identical in appearance with the cells of the germinal centres of the lymph glands. Megaloblasts are a constituent of normal marrow and form the proliferating centre of erythroblastic tissue.

Further Observations on the Agglutination of Staphylococci.—OTTO (*Cent. f. Bakt. u. Parasitten,* 1903, Bd. xxxiv. p. 44) concludes that of the many varieties of staphylococci there is only one which is really pathogenic for man. This variety may be easily diagnosed by its strictly specific agglutinability with the serum from an animal immunized against the pathogenic variety. The true pathogenic form, furthermore, is alone capable of producing hæmolytic staphylotoxin.

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